Amtex Pinball Classics™

D. Gottlieb & Co.™

ROYAL FLUSH™

Official Player Manual

Real Games
Rare Games

AMTEX PINBALL CLASSICS™

The Amtex Collector's Series brings you the experience of actual pinball games made by the world's leading pinball manufacturers. Games whose sheer, white-knuckled fun have launched them to the top of pinball charts.

The rare games, the ones that fans wear out, these are the games destined to become Pinball Classics. Now, thanks to Amtex Virtual Engineering, you've got your own Pinball Classic–and it will last forever.

ROYAL FLUSH™

Amtex Collector's Series #2

Jokers are wild in this pinball poker delight that capped the era of electro-mechanical games with a spectacular sales success for Gottlieb. Wide open, fast paced and challenging, this game is great for learning real pinball skills.

Card games, especially poker, have always been a strong theme in pinball. Like cards, pinball allows the player to explore the mysterious relationship between skill and luck. Blend in the fascination of stage magic, add a solid playfield layout, and you've got this charming, unforgettable game from the masters at Gottlieb.

D. Gottlieb & Co.

ROYAL FLUSH™

A Gottlieb® Pinball Original

AMTEX
Software Corporation

Serial # PB68ZDZF6RP

ROYAL FLUSH™

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We ask you to respect yourself as well as the many people who designed, built and brought this game to you. **Just say no to illegal copies!** Help make it possible for software publishers to continue bringing you the pleasure of new games.

Acknowledgments

AMTEX would like to thank all the people in the pinball industry who have enthusiastically supported us in spreading the pleasure of pinball through the medium of computer simulation.

Royal Flush, the pinball game, is now brought to life on your computer through the innovations of AMTEX Software.

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ROYAL FLUSH™

Table of Contents

Introduction 5
IBM PC Installation 9
- System Requirements 10
- Configuring your Computer 11
- Installing Royal Flush 12
- Starting Royal Flush 13

Playing Royal Flush 15
- Keyboard controls 16
- Using the mouse 17

The Pinball Café 17
- Game Start 18
- Top Ten Board 18
- Magnet Ball 19

Behind the Back Glass 20
- Back Box Settings 22
- System Settings 24

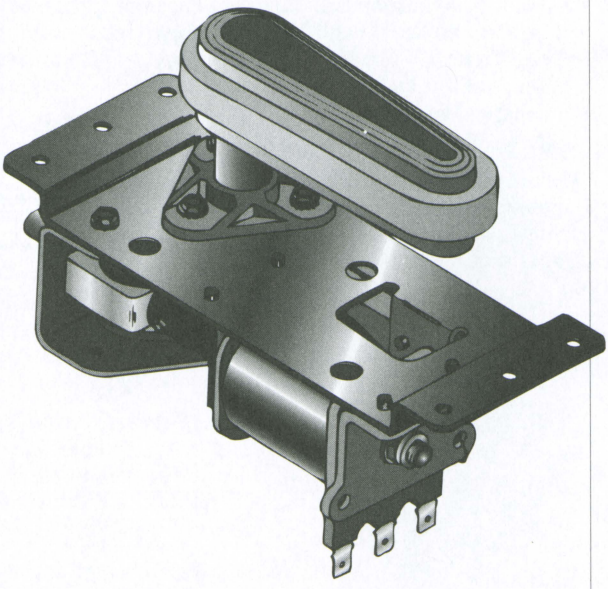
Pinball Lore 27
- The Electromechanical Era 29
- Ed Krynski 30
- Royal Flush 31
- Pure Pinball 32

Major Pinball Events 33
Pinball Fundamentals 35
- The Flippers 36
- The Plunger Skill Shot 39
- The Nudge 40

Playfield Operation 40
Playing Tips from a Pro – Michael Gottlieb 41
Amtex Product Support 42
The Online Pinball Cafe 46
Technical Notes 49
- Easy Start 50
- Command Line Options 51
- RAM memory set up 51
- Faster CD access 52
- Sound Cards 53
- VESA video drivers 54
- OS/2 59
- Error Messages 59

Game Features ..... Inside Back Cover
Playfield Map ..... Inside Back Cover

Introduction

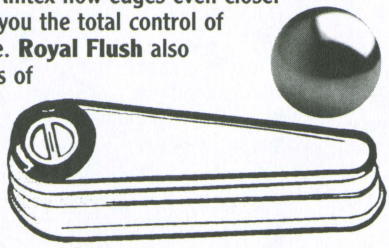


ROYAL FLUSH™

Introduction

Thank you for choosing **Royal Flush**, second in the **Pinball Classics** series from Amtex and the closest thing to real pinball yet created.

With **Royal Flush**, Amtex continues to make computer pinball more realistic than ever. After bringing you the first visibly accurate pinball physics with **Tristan** and the first re-creation of an actual pinball classic with Bally's **Eight Ball Deluxe**, Amtex now edges even closer to reality with Royal Flush by giving you the total control of **TrueTouch**™ Flippers and Nudge. **Royal Flush** also includes all the back box adjustments of the original and then some.



With **Royal Flush**, you now have options to customize the game just the way you like it–options that, until now, were accessible only to those with the keys to the back box.

Now, **you've** got them. So, go ahead, use them. Experiment. Set the game up just the way you like it. Make it tougher as you get better. You can even save different setups as they might have existed in different arcades, then play whichever one strikes your mood.

When you're ready to get really serious, hit the Tournament Reset button and lock the game down to expert-level play. Take on a pro-level setup that lets you compete on the same virtual machine as anyone, anywhere in the world.

Why have we recreated this level of detail? Because we're committed to honoring the tradition of pinball. We believe it's important to let people see, hear and play the great pinball games of the past. To know them for what they were, to enjoy them as they are and to discover the magic at the heart of real pinball.

Amtex Online Pinball Café

Get yourself a modem, if you don't have one already, and come visit. Enter via the Internet, CompuServe or dial in direct. This is the place to hang out, meet other pinball fans, exchange pinball ideas, playing tips, check out the High Score Board, discover new games, and–should you ever need help–contact Amtex Technical Support through your computer.

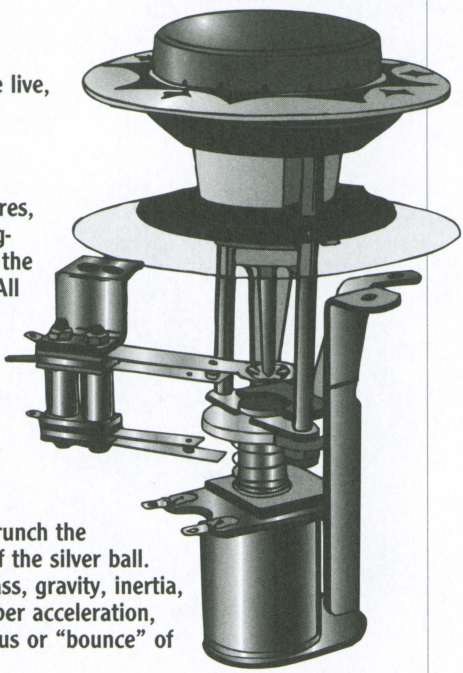
Sight

Savor the original artwork on the live, 3-D playfield in 256 vivid colors.

Sound

Strike up an orchestra of armatures, coils, solenoids, springs and slingshots as your ball caroms across the playfield and nails your targets. All authentic, all digital.

Enjoy the original music composed for Royal Flush by Mark Vange—musician, programmer and pinball fan.



Ball Action

Your chips will be humming to crunch the algorithms that trace the flight of the silver ball. Everything is factored in: ball mass, gravity, inertia, incline, momentum transfer, flipper acceleration, nudging–even the varying modulus or "bounce" of 16 different surfaces. Whew!

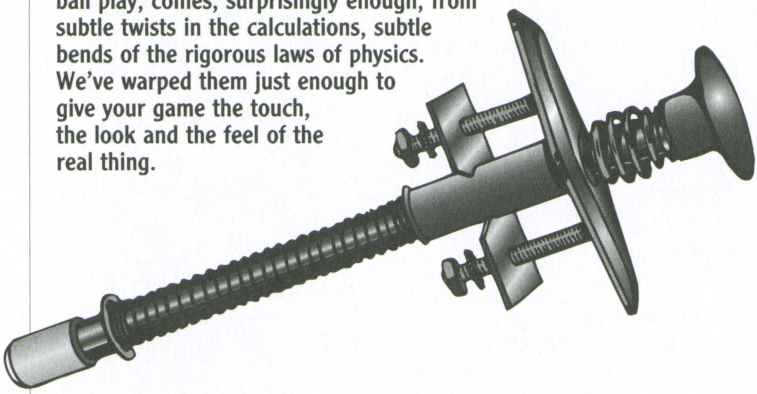
$$V(avg) = \frac{V_1 + V_2}{2}$$

$$a = \frac{\Delta V}{t} \qquad F = m \times a$$

ROYAL FLUSH™

Art of Motion

That "indefinable something" of Amtex pinball, that touch of realism in ball play, comes, surprisingly enough, from subtle twists in the calculations, subtle bends of the rigorous laws of physics. We've warped them just enough to give your game the touch, the look and the feel of the real thing.



Enhanced pinball realism– New with Royal Flush!

- Greater variety of rebound surfaces.
- Enhanced flipper/pinball interaction for complete mastery over the ball.
- Variable nudge, from quiver to quake.
- Variable tilt sensitivity.
- Coin - Free Play selector switch.
- Adjustable Special Awards and more.

D. Gottlieb & Co.

ROYAL FLUSH™

IBM PC Installation

IBM PC Installation

System Requirements

Royal Flush runs on IBM PC or compatible with 386 or higher processor.

RAM

4 MB for full game experience; 3 MB without sound card.
Minimum 420K Conventional Memory.

Graphics

For the hi-res Stationary Playfield:
SVGA Monitor and Video Card with at least 512K VRAM
VESA driver for your Video Card or VESA equipped Video Card

For the Scrolling Playfield:
VGA or MCGA Video Card and Monitor

Sound

Internal PC speaker or Sound Blaster™ compatible sound card.

Laptops

Works on most IBM PC compatibles equipped with either color or b/w VGA, provided they meet the CPU and RAM requirements. Action may blur on passive matrix displays, but plays hot and sharp on newer, active matrix machines.

Configuring Your Computer

The following two components of your computer system must be set correctly before running Royal Flush:

- Audio Card
- VESA Video Driver

Audio Card

If your Sound Blaster or compatible audio card is already installed and working properly with other programs, you probably don't have to change anything here.
Please refer to the Sound Card section of TECHNICAL NOTES, below, if your equipment includes any of the following:

- ATI Stereo VGA/FX video/sound card
- Media Vision / Pro Audio Spectrum sound card

If you have no audio card installed, you'll still hear basic game sounds through your PC speaker, though the full realism of Royal Flush requires a Sound Blaster or compatible card and speakers.

VESA Video Driver

VESA video drivers are small, memory resident programs that enable different video cards to respond properly to VESA standard commands in SVGA mode.

Unless you have a newer video card with VESA compatibility built into its hardware, the VESA driver supplied by your card's manufacturer must be loaded prior to running Royal Flush in SVGA high resolution.

If you're not sure how to do this, please read the VESA Video Drivers Section of TECHNICAL NOTES, below.

No SVGA?

Royal Flush plays very well in 256 color, scrolling-screen VGA mode without any VESA video drivers or SVGA equipment.

Installing Royal Flush

After configuring your computer, follow these three steps:

1) Insert the Royal Flush CD into your CD-ROM drive. If you are installing Royal Flush from disk, place Program Disk 1 into your disk drive.
2) Type:
x:install <Enter> (where **x** is the letter of the drive containing your CD or installation disk).
3) Follow the on-screen instructions. Choose to load the game onto your hard drive for convenience and speed or save disk space by playing from your CD. When asked, look for your serial number on page one of this manual.

Microsoft Windows 3.1

Microsoft Windows 3.1 impedes access to certain low-level machine functions. Thus, even with a fast 486, it is not possible to experience optimal performance while Windows is active. Exit Windows 3.1 before installing or playing Royal Flush.

IBM OS/2

Royal Flush can be run as a DOS application under OS/2 v2.1. For setup information, please refer to the Operation Under OS/2 section of TECHNICAL NOTES, below.

Networks

Royal Flush has been tested successfully on network servers. However, it would be wise to go off line until after you've installed and played your first game.

Readme.txt

This file, containing additional information, may be included on your program disk. Use any DOS or MS Windows text editor to check its contents.

For example, at the DOS **C:>** prompt type:

edit a:readme.txt <Enter>

Starting Royal Flush

1. Change to your **Royal Flush** directory by typing:
   CD \amtex\rylflush <Enter>
2. Run your VESA video driver. For example, if your VESA driver is called vvesa.com and located in the directory c:\vgautil,
   type:
   c:\vgautil\vvesa <Enter>
3: Start Royal Flush by typing:
   rf <Enter>

VESA Built In?

If you're lucky enough to have VESA compatibility built in to your video card, or if you've set your VESA driver to load automatically on computer start up, you may skip step 2 forever!

Customizing Start Up

While you're waiting for the game to load the first time and take you to the Pinball Café, check out these two ways of customizing your game play:

Command Line Options

Note that you can change the nudge keys, match up to an old, cranky VESA driver and more by adding parameters to your start-up command. Read all about it under **Command Line Options** in the TECHNICAL NOTES section.

Easy Start

Combine all start-up instructions into one simple command. See **Easy Start**, in the TECHNICAL NOTES section.

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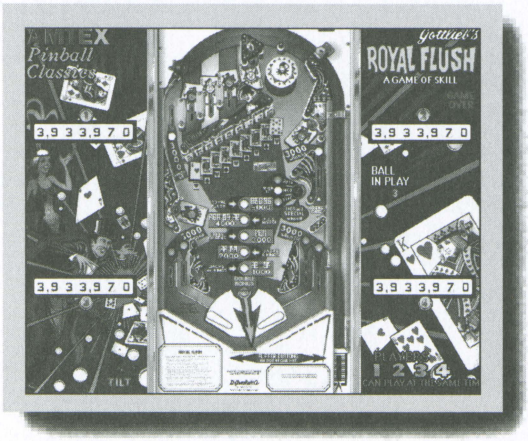
ROYAL FLUSH™

Playing Royal Flush



Playing Royal Flush

Command Summary

Keyboard Controls

Deposit Coin	<Ctrl-C> One credit per player, per game-unless the game is set to "Free Play"
Start New Game:	<Ctrl-S> key
Add a player:	<Ctrl-S> key (Repeat for each additional player before launching the first ball)
Pull back plunger:	<Alt> key
Left Flipper:	Left <Shift> key
Right Flipper:	Right <Shift> key
Nudge Up	<spacebar>
Nudge 45 Degrees Right	"z" key
Nudge 45 Degrees Left	"/" key

Diagonal nudge keys are individually configurable using the **nudgexXyY** command line option. See the **Command Line** section of TECHNICAL NOTES, below.

Additional computer commands

Synchronize playfield display (SVGA mode)	<Ctrl-V> key toggles through various VESA modes
Score Display Bar (VGA Scrolling mode)	<Enter> key toggles Display Bar On/Off
Audio:	"a" key toggles PC Speaker/Sound Card/Off
Game Pause:	"p" key toggles On/Off
Return to Café:	<Esc> key
Exit to DOS from Café:	<Esc> key

Using the Mouse to Play Pinball

Click on your left mouse button to activate the hot spots in the Café or Back Box screens.

To pull back the plunger: Hold down the left button, draw back the mouse, then release.

Flippers: Once the ball is in play, use your mouse buttons to operate the flippers.

Magnet Ball Mode: Turn your mouse into a powerful magnet and draw the ball around the playfield to explore game features and scoring. See below for details.

The World of the Pinball Café

Welcome to the hub of Amtex computer pinball. Always open! Use your mouse to explore the Café or cycle through its action areas with your <Tab> key, then press <Enter> to choose. Behind the Backglass of the pinball machine, for example, you'll find some interesting ways to customize your game.

When you're ready for a cool game of pinball, find the coin slot on the front panel of the machine with your mouse, drop in a coin or two and then press the start button. No mouse? Press <Ctrl-C> to add coins and then <Ctrl-S> to start playing.

To return to the Café from any feature, press <Esc>. Press <Esc> again to exit to DOS.

Game Start

Got your quarters out? Relax. From here on in, you don't need them.

Mouse

As soon as your cursor passes over the coin slot on the front of the machine, it changes into a coin. Click once to drop a coin into the game and award yourself a credit. You'll need one credit per player, per game. Now move the cursor over the Start button and click again. The game begins.

Free Play

If you'd rather play to win points instead of competing to see how long you can go for a quarter, you can set your machine up for "Free Play" – no coins required. While in the Café, click on the Back Box and swing it open. Here you'll find a switch that toggles between the replay icon and the coin icon, as well as many other options to customize your game. See the BACK BOX section, below, for details.

Top Ten Board

Look here for the 10 best scores racked up on your machine.

All scores achieved under Tournament Settings are flagged by a trophy icon. See **Tournament Settings**, in the BACK BOX section, below, for instructions in setting this option and why it's important when competing with players in remote locations.

Top Ten Board (Cont'd.)

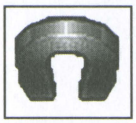
High Score Validation Code

To generate a unique code that validates your highest Tournament Score, press <spacebar>. This code, confirming both your score and registration number, will appear on screen as well as being written to disk as HIGHSCORE.TXT.

Online High Score Board

Visit the Amtex Online Pinball Café and compete with friends across the country! See the TOURNAMENT PLAY section, below.

Magnet Ball



Click your mouse cursor on the red magnet hanging beside the pinball machine to enable this incredible feature during game play. Turn your mouse into a powerful magnet, draw the pinball around and explore the game at will. Pressing the left mouse button activates the magnet; releasing it lets gravity take over.

All game features and scoring work just like in the regular game, except that high scores are not recorded.

Use Magnet Ball to explore the game rules and formulate your own strategy. Discover various ways to rack up points. Make the most of each game, no matter how it develops.

Behind The Backglass

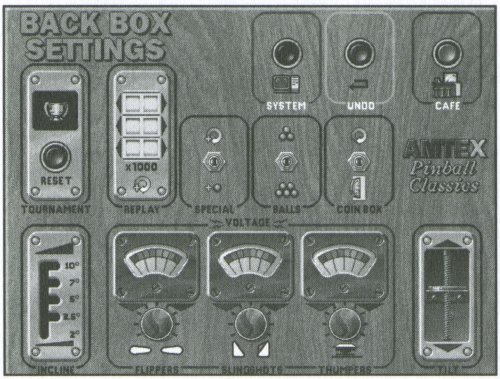
Use your mouse to click on the backglass of the pinball machine, or else <Tab> to the backglass and press <Enter>. It will swing open to a world of game controls hidden from the casual user, just the same as the adjustments to a real pinball machine are out of reach to anyone but the Operator.

The Operator

The Operator is the man (or woman!) without whom pinball would never have been possible. He is an essential link in the world of pinball, just as important as the game designers and manufacturers. He's the one who brings the pins to the arcades, who comes back regularly to collect the money and splits it with the host providing floor space. He is also the one who maintains the pins in perfect running order–replacing burnt bulbs and solenoids, cleaning the rubbers, rings and playing surface; making mechanical repairs to the flippers, bumpers, ramps, targets or other features of the game. He is the one who tunes the difficulty level to match the skill of the players in each location. Operators who do a good job of maintaining clean, fully functioning games are the unsung heroes of pinball and true friends to the player.

Although Amtex computer pinball spares you the task of maintaining the physical machine, it now offers you the opportunity to make virtually all the same mechanical adjustments.

Changing the Settings



Mouse

Click your mouse to flip a toggle switch or press a button. Adjust other controls, like the incline, tilt sensitivity or voltage by pointing to the red or green arrow on the control and then holding down your left mouse button.

Keyboard

No mouse? Use your <Tab> key to navigate to the feature you'd like to adjust and then press + or - to raise or lower the setting. To flip a toggle switch or push a button, press + or <Enter>.

Back Box Settings

Set up the machine just the way you like it.

Tournament Reset

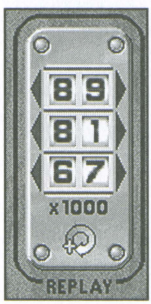
Punch <Enter> here or click on the RESET button to return all your **Royal Flush** game adjustments to their Tournament Play defaults.

Tournament settings set your game into a challenging configuration, great for serious competition. This setup is based on the original Gottlieb factory defaults for scoring, table incline, solenoid voltage and so on. It does not affect your preferences for game sound reproduction or playfield display.

Most importantly, this collection of machine settings is identical on every **Royal Flush** game shipped by Amtex, so you can be sure that everyone you're competing with is playing on the same table as you.

High Scores achieved under Tournament Play are flagged with the trophy icon on the **Top Ten Board** in the Café. Pressing <spacebar> while at the Top Ten Board will produce a **High Score Validation Code** that's displayed on screen and stored on disk under the name HIGHSCORE.TXT.

Got a good score? Chalk it up on the international board at the Amtex Online Pinball Café for all your friends (and competitors) to see.



Replay

Here's the place to set the difficulty level of the game, in terms of the score you need to win extra games. You can set three thresholds, each of which awards a replay. Due to the mechanical limitations of the original game, any digit from one to ten could only be used once in the thousands place. Similarly, a number could only be used twice in the ten-thousands place.

Gottlieb Factory Settings

3-Ball	62,000	76,000	84,000
5-Ball	67,000	81,000	89,000

Special

In the original game of **Royal Flush**, the Hole Special only awarded replays. Since no real quarters are necessary to play this computer re-creation, we've included the opportunity to win extra balls instead, thus gaining the opportunity to really build up the score.

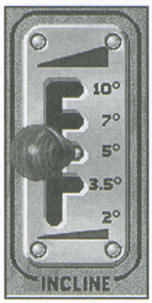
No extra balls are awarded during Tournament Play.

Balls

Set your game for 3-ball or 5-ball play. Note that the scoring is more liberal during 3-ball action.

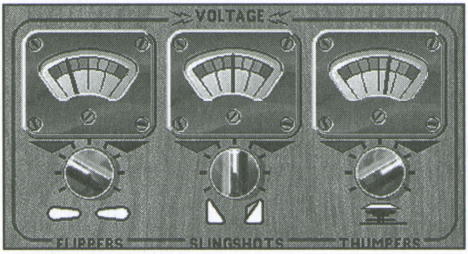
Coin Box

Want a chance to see how many games you can play for a quarter just like at the arcade? Set this switch to "Coins."
Hate having to insert coins before every game? Set this switch to Free Play.



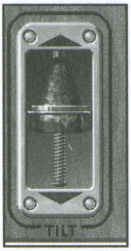
Incline

Vary the angle of the playfield and thus the speed of the game.



Voltage

Individually raise or lower the power of the flippers, thumper or slingshot bumpers.

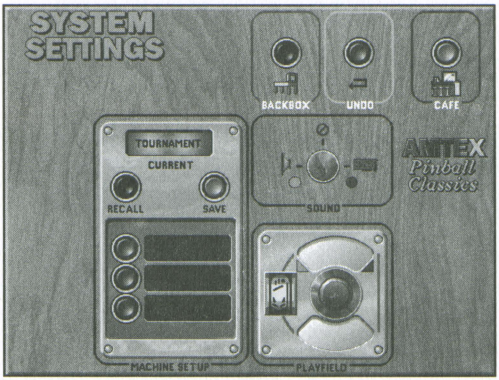


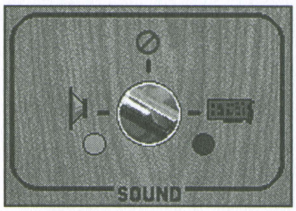
Tilt

The jostling of a pinball machine is generally measured by means of a plumb bob suspended within a copper or brass ring. The more a player nudges the table, the more he builds up the swinging motion of the bob, until finally it touches the metal ring that encircles it. This electrical contact signals "TILT" to the machine and shuts down the ball in play.

By raising or lowering the cone-shaped bob, you can change the clearance around it and thus its sensitivity.

System Settings



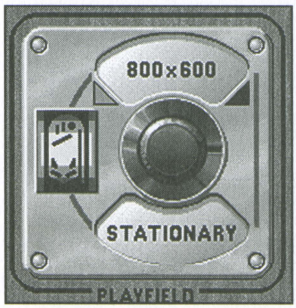


Sound

Rotate this switch to choose between PC speaker, OFF or Sound Card. The Sound Board options are grayed out if you have no sound card installed.

Playfield

Selecting Your Playfield Display



What would you like to play on ? A full width, Scrolling Screen, a full height, Stationary Playfield, or something that gives you the best of both? With **Royal Flush**, you've got your choice.

If your hardware supports SVGA, and your VESA driver is working, you can choose from two high resolution, 256 color playfields: the 800x600 Stationary Playfield or the 640x480 Semi-Scrolling Playfield.

At 640x480, the playfield extends a little above and below the screen, but will scroll slightly to keep the ball in view. This option, combining a large playfield display with a clear view of both flippers and targets, is the choice of many pros.

For the playfield to be completely stationary, your video card and monitor must be able to support a resolution of at least 800x600 in 256 colors. All VGA cards support the 320x240 standard VGA 256 color Scrolling Playfield.

Machine Setup

Saving or Recalling Your Custom Game Settings

Once you've tuned the game to play just the way you want it, you'll want to save your setup, right? Here's the place to do it. Save several versions of **Royal Flush**, as it might be played in different arcades, under a unique name for each.

Saving Your Settings

1. Click on the save button.
2. Click on the button beside the data entry window you want to use.
3. Enter the name under which you want to save the current game settings (or edit an existing name).
4. Press <Enter> or click on save.

Recalling Your Settings

1. Click on the recall button.
2. Click on the button beside the game settings you wish to restore.
3. Press <Enter> or click on recall again.

Pinball Lore

Photo courtesy Richard M. Bueschel from his book, Pinball 1.

Pinball Lore

Out of the Misty Past

The origins of pinball have been traced back as far as the 1700's. In the final days of Louis XVI, while mobs gathered in the streets and the dark shadow of the guillotine loomed into sight, gentlemen of the court passed their time playing a new sport called Bagatelle. Using a cue with a flat tip, they shot marbles up an inclined table. In order to reach the target holes, the ball had to curve over at the top and bounce down through a field of pins.

As the years passed, more sophisticated playfields emerged. In 1870, the first spring-powered shooter was introduced. Various versions of Bagatelle were played in parlors and amusement halls around the world, but it wasn't until the time of the Great Depression, which threw so many people out of work, that the first mass market was born for inexpensive coin operated recreation. Among the earliest to recognize the possibilities and act on them was a man named David Gottlieb. His first game, Baffle Ball, started an overnight craze and launched the modern pinball industry.

Close on his heels came two other pioneers: Harry Williams, founder of Williams Electronics, and David Maloney, who built the Bally Manufacturing Company on the strength of his first try, Ballyhoo. In fierce competition for public favor, these men began delivering innovations in game after game. Electricity, for example, was added to the power of springs and gravity by Harry Williams in 1933 with his invention of the kick-out saucer. The notorious "tilt" detector followed quickly, again by Williams. Bally countered with the first electric bumper. Playfields and backglasses grew more complex. But, surprisingly, it wasn't until 1947 that someone thought to invent the flipper. That someone was Harry Mabs, a Gottlieb designer. With this device—that for the first time allowed the player to really participate in and affect the course of the game—Mabs gave birth to pinball as we know it today.

The Electro-Mechanical Era

During the 1950's, the "Golden Age" of the EM's (electro-mechanicals), and for almost two decades after that, Gottlieb games dominated the pinball scene around the world.

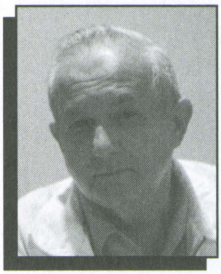
One of their most important designers was Wayne Neyens. Queen of Hearts, perhaps his most famous game, is still cherished by many collectors as the best of the "wood rails". Later, Neyens went on to become Gottlieb's Chief Engineer, a position he held for many years, even to the days of Royal Flush.

As pin games grew in complexity, designers grew ever more clever in devising ways to build the game's logic into its component parts: electro-mechanical solenoids, a maze of wires, motorized cams, the mechanical switching action of the targets, rivet-covered wooden wheels that rotated against copper blades—even the contacts made or broken by the pinball itself. Lift a playfield and you reveal a mechanism that would make a watchmaker sweat.

Part of the charm of Royal Flush is the charm of the era . Even though it was built in 1976, during the last days of EM, it still used AC powered solenoids and flippers. They buzzed when activated and delivered less power than modern DC solenoids. That's why the incline on EM playfields is shallower and the ball roll slower. Instead of rocketing around in fast, straight trajectories, the ball often curves at the top of its arc. Aiming accurately over this curved path to achieve your objective is part of the EM challenge.
The scoring, too, is a by-product of the times. Electro-mechanical scoring counters, which incorporate a rotating cam, can't split time up into the microseconds of today's electronics. Simultaneous target strikes thus fail to register. Fortunately, however, all targets down are counted in the bonus tally at the end of each ball.

Your computer recreation of Royal Flush is faithful to these scoring quirks, allowing you to experience all the challenge and pleasure of the original game as if you'd reached back to1976 and plucked it off the Gottlieb line in Northlake, Illinois.

Ed Krynski



The designer who originally conceived and created Royal Flush was a man named Ed Krynski. Ed had first started making pins for Williams in the early 50's, but it wasn't until 1962, when he came to Gottlieb, that he really got cooking. By the time he designed Royal Flush, in 1973, he had his own studio in the Gottlieb factory at 118 North Tower.

Down the street at Zenith, practical people assembled TV's. Behind the Gottlieb plant, heavy locomotives rumbled past, shaking the earth and jingling the pinballs in Ed's prototypes. He was oblivious to it all, of course, lost in the creation of his latest pingame. Like the other designers of the day, he not only conceived, designed and built his own playfields, but also engineered the wiring, drew the schematic and installed all the solenoids, flippers, targets and scoring mechanisms into a complete prototype. The only thing he didn't do himself was the final artwork, which was handled by Advertising Posters Productions.

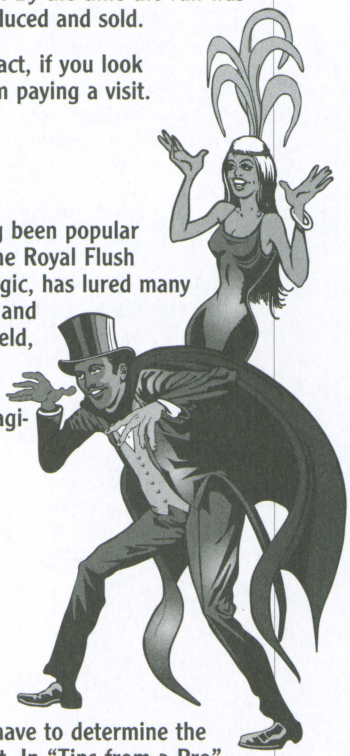
Those were good years for Ed Krynski. At any given time, he recalls, he had five or six finished games against the wall of his workshop. Management would come in from time to time, look them over, play them, and pick the next one to go into production. Meanwhile, he'd be working away on something new, as different from the last as he could make it. "Management didn't bother me. I didn't bother them. And the pay was regular."

Royal Flush, ironically, initially met with resistance from Gottlieb executives. First of all, the layout was asymmetrical, unlike Gottlieb's usual style. Secondly, they weren't sure it would go over well in Europe, which accounted for 60% of their market. "Took me three years to sell them on it," he chuckles now. "They didn't believe anybody knew poker in France or Germany. I had to keep reminding them that cards, playing cards, are instantly recognized anywhere in the world. You may not be able to talk the other guy's language, but so long as you've got a deck of cards, you can have yourselves a game of poker."

In the end, Gottlieb's management agreed to go with the game and, almost immediately, Ed was proved right. Not only did people everywhere know poker, but they loved playing his version of it. So many orders flooded in that Gottlieb had to keep Royal Flush in production two and a half times longer than the usual pin. By the time the run was over, more than 16,000 games had been produced and sold.

Ed has retired now, but he's still around. In fact, if you look inside the Pinball Café you just might find him paying a visit.

Royal Flush



Both card games and pretty women have long been popular themes in pinball. The beautiful artwork on the Royal Flush backglass, by adding the mystery of stage magic, has lured many players to the table with its promise of tricks and delights to come. A quick glance at the playfield, tasty as it appears, may suggest that this will be an easy game. However, like the dexterous sleight of hand performed by a skilled magician, there's more than meets the eye.

Key Features

- Green, White and Purple Joker Lanes and Targets
- Pop Bumper
- The "Special" Hole
- Open Gate Lane
- Bank of Card Targets

Two challenges await you. First of all, you'll have to determine the most advantageous sequence of target pursuit. In "Tips from a Pro", Michael Gottlieb, grandson of the legendary David Gottlieb, reveals some valuable insights. As your skill grows, you will find that the strategy for attaining your personal best grows with you.

The second challenge, of course, is to maneuver the steel ball through your objectives without losing it down the drain too quickly. The basic tools are simple: a bumper, a flipper, a target. They form a strong link to the origins of pinball. Yet the feat of "rolling the game over", or passing the limit of mechanical scoring registration by surpassing 99,999–remains an elusive goal. You'll have to master the art of flipper and nudge to accomplish that one!

Give yourself a little time to learn these skills, then discover the ultimate pleasure that comes from finding the rhythm of the game and merging with it. Before you know it, the ball will be flowing through the playfield like an endless silver river.

Pure Pinball

Although modern game designers deserve nothing but praise for incorporating the latest technology into their games, there's nothing like a good electro-mechanical for discovering the essence of pure pinball.

Ironically, it's Amtex's unique, cutting edge technology that brings this experience to life.Amtex **True-Touch**™ flippers and nudge so accurately recreate the physics of ball control that simulation starts merging with reality.

In the following section, we present both fundamental and advanced pinball techniques. Master them. Create your own variations.Discover the pleasure of pure pinball and you'll find yourself well on the way to pinball wizardry.

Major Pinball Events (USA)

These annual events draw thousands every year. Supported by the major pinball manufacturers, they showcase the latest games—months before you'll see them at the local arcade.

You'll also catch the world's best players in action as they compete for mouth-watering cash prizes. Learn their coolest moves—or take them on yourself! You'll meet other pinball aficionados from the USA, Canada, Europe and the Far East, share your experiences—even get a chance to talk to leading designers in person.

Most events also include new and vintage games on display for play, trade or sale as well as lots of pinball paraphernalia—posters, books, manuals, parts and souvenirs. Their central "Halls of Pinball" often stay open all night. Imagine playing in a spacious, high-ceiling room that's alive with hundreds of games. After midnight, the lights dim until the hall grows totally dark, setting off the colored lights of the playfields and backglasses. Glowing and flashing, they illuminate the intent faces of players flip-handling their silver balls to send them singing through the machines. Fans of all ages, from all walks of life, come together at these events, along with manufacturers, operators and pinball champions, to share their common enthusiasm for one of the world's great sports.

Regional shows can also be tremendous fun (and closer to hand). Reports from Europe and Asia tell of similar grand gatherings. Let us know about your favorite event and we'll post the info in the Online Café.

PAPA - "Big Time Pinball" - New York City

Held every winter, usually in the first week of February, this gala competition is guaranteed to melt the snow off your pinballs. This annual tournament caps the season for the Professional and Amateur Pinball Association as well as featuring an Amtex Pinball Classics shoot-out on computer. Many divisions. National media coverage. Everyone welcome to compete or participate.

For details, entry fees, accommodation package, etc., call Steve Epstein at The Broadway Arcade: 1-800-FLIPOFF or 1-212-247-3725

The Pinball Show - Scottsdale, Arizona

Held in June. The largest all-pinball show in the West. 10,000 sq. ft of pinball fun! Going strong for more than 5 years, it features a tournament with Open and Women's Divisions. Win a trophy or even a new pinball game. Over 100 old and new games to play, many for sale. Banquet Dinner. Raffles... Prizes... Surprises.

Held at the Safari Resort Hotel. Call or write for more information:
Bruce Carlton, Pinball Show Chairman
7417 S. Juniper St. Tempe, AZ, USA 85283
Phone: 602-831-9699.

ACME Show

One of the two major shows put on by the industry itself. The American Coin Machine Expo features some heavy representation by the movers, shakers and designers at Bally/Williams, Premier Technology (makers of Gottlieb™ pinball games) and Data East. It is held annually in cities like Las Vegas, New Orleans, Anaheim ... or even Chicago. Every March.

Contact: Bill Glasgow Sr. or Judy Novak at 708-333-9292

AMOA

This other major industry show, the American Coin Machine Expo, also changes its venue annually. Great fun for players and fans, who often get a chance to meet the celebrities associated with the season's latest theme games, as well as actually playing or competing on the games themselves. Like ACME, the AMOA offers free game play with admission, free brochures, posters (get them signed by the designers) and other neat promo stuff. Lots of fun. September.

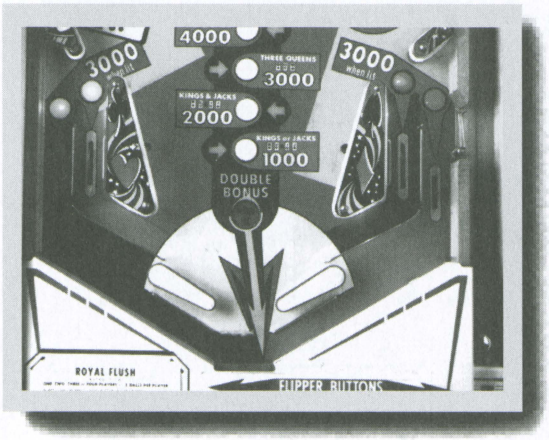
Contact: Fred Newton at 1-800-937-2662 or 312-245-1021

Pinball Expo - Chicago

Held in the fall, Pinball Expo takes place at the Ramada Inn, next to O'Hare Airport, in Rosemont, Illinois. Now in its 2nd decade, this colorful event includes a tour through the factory of a major pinball manufacturer, as well as many exhibits, old and new pinball games, seminars, advanced pinball lessons by the greats and an auction of over 200 classic pinball games. First prize of the tournament: a brand new pinball machine!

Contact: Robert Berk at 1-800-323-3547 or 216-369-1192

Pinball Fundamentals



Pinball Fundamentals

"Pinball is 80% skill and 20% luck"
– Dave Hegge, IFPA Champion

Every falling ball obeys the laws of physics. The player has three ways of influencing its motion:

1) the Flippers
2) the Plunger
3) the Nudge

The Flippers

Master the following skills to keep the ball in play and move it through the targets. They'll help you reach that thrilling upper atmosphere where the high-scores, extra balls and special bonuses seem to go on forever.

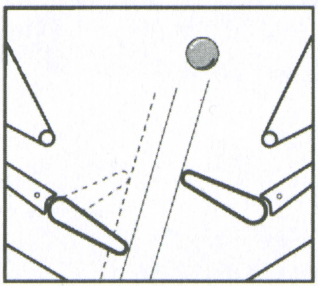
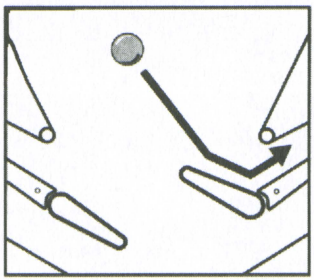


Fig. 1 - Good Flipper Technique
This basic flipper technique will really improve your game. By using the flipper on the same side as the approaching ball, you'll narrow the escape slot. Think of the flippers as individual tools. Anticipate the trajectory of the ball. You'll save the ball more often by following Figure 1 than you will by flipping both flippers at the same time.

Fig. 2 - Ball Holding Technique
The ball save or hold will teach you to relax and control the pinball. Once you've cradled the ball, you can let the flipper down and aim for key shots on the playfield. This technique can also be used to save the ball through the Return Lane for cool action on the run. Some people capture the ball this way for a chance to catch their breath and then take a well-considered shot.



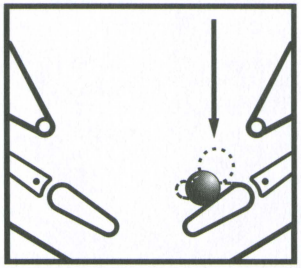


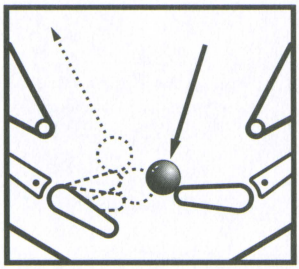
Fig. 3 - The Drop Catch
Sometimes the action gets extremely frenzied, with the pinball rocketing around out of control. When you find that banging at it only adds to its energy, and even holding the flipper steady in its path just creates another wild deflection, it's time to consider the Drop Catch.

Using the Drop Catch can get the laws of physics on your side by letting the flipper soak up some of the ball's momentum. Here's how:

When the ball is heading for the center-to-tip area of a flipper, raise your flipper and hold it in the ball's path. A hair before the ball collides with the flipper, release the flipper key. With the flipper free to move at the moment of impact, the energy of the ball is imparted to the flipper and its mechanism, leaving the ball dead in its tracks. Physicists call this momentum transfer. Depending on the direction of the ball, its spin, interaction with the flipper's rubber and point of contact, the ball will either come to rest on the flipper or roll gently upwards, under control again.

The farther from the flipper's pivot point, the more dramatic the results. Try it.

Fig. 4 - Double Flip
If the ball's trajectory is leading it through the space between the flippers so that the closest flipper will only make contact with its rounded tip, the resulting shot often ricochets back off the corner post and down the hole before you can blink.



This is the one situation that calls for a double flip. Timing is critical. By activating the second flipper a split-second after the first, you'll redirect the ball uptable.

Lane Transfer

Every pingame has certain targets that can only be reached by a shot from one flipper and not the other.Fortunately, there are several ways to move the ball over from one side to the other. Here are four, all mastered by the pros.

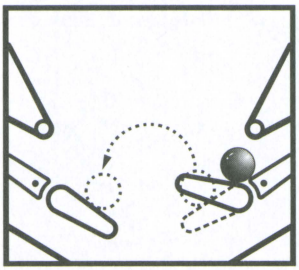
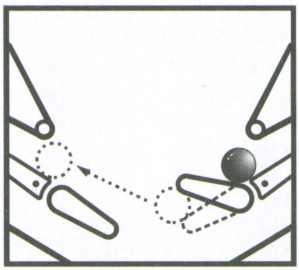


Fig. 5 - Tap Pass
From a cradled position, release your flipper. When the ball has rolled halfway down, tap the flipper button momentarily to move the ball over. The trick here is to achieve the briefness of flipper button contact.

Fig. 6 - Tip Flip
This shot is one of the most dangerous, since an instant ricochet down the drain is the price of a split second error in timing. Mastery of this shot, however, will enable you not only to transfer the ball, but score the rollover on the opposite Return Lane.



From a cradled position, release your flipper and allow the ball to roll down. As the ball reaches the tip of the flipper, shoot it up the lane on the other side.

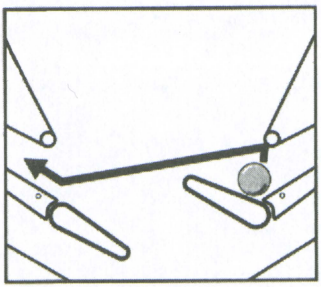


Fig. 7 - Deflection Post Transfer
From the cradled position, release the flipper momentarily before shooting to bounce the ball off the near deflection post to move it across. As always, timing is critical.

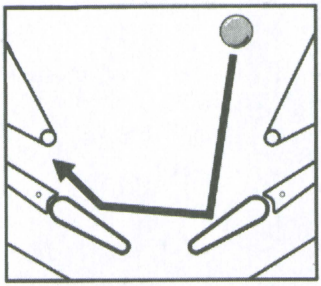


Fig. 8 - Dead Flipper Bounce
Your friends will be impressed by your complete mastery of the game and coolness under fire when you use this advanced method of transferring the ball to the opposite flipper. It's actually quite easy–once you've trained yourself to allow it to happen.

The Dead Flipper Bounce will slow the action, give yourself a moment's rest, and get the ball where you want it. When the ball is falling for the middle of either flipper, just relax and let it bounce to the other side.

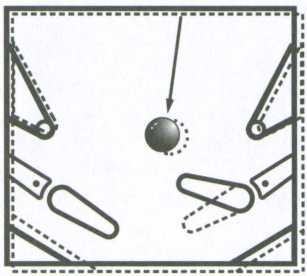
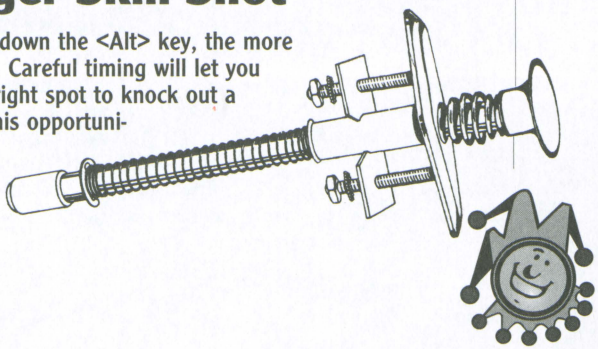


Fig. 9 - The Slapshot
This is a last resort, used when the ball is heading down the center gap heartbreakingly close to, but out of reach of one or the other flippers. By slapping the side of the machine at the flipper button, the whole table is jerked sideways under the ball as the flipper arcs up and catches a piece of the ball. You can replicate this shot in Royal Flush by hitting the flipper and adjacent nudge key simultaneously.

Experts use it only when there is not much bonus at stake, since the chances of tilting are high. Occasionally though, an entire game can hinge on the successful use of the slapshot.

The Plunger Skill Shot

The longer you hold down the <Alt> key, the more energetic the launch. Careful timing will let you drop the ball in the right spot to knock out a Joker. Don't waste this opportunity for a good start on your ball.

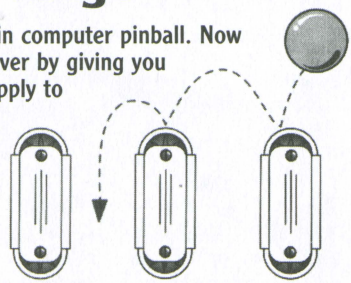


Nudging

Nudging, or gently shaking the pintable is the most basic way to alter the ball's course when it contacts a solid object. By using the nudge keys you can impart force to the ball and accelerate or bounce it in another direction on the playfield.

TrueTouch™ Nudge

Amtex pioneered the 3-way nudge in computer pinball. Now we've made it more realistic than ever by giving you control over how much force you apply to the playfield. Touch the key briefly for a gentle nudge or hold it down for a good shove.



Nudging can help you make a rollover lane or save your ball from draining out the side lines. Keep in mind, however, that the harder and morefrequent the shakes, the quicker you'll TILT.

Playfield Operation

(From the original D. Gottlieb & Co. Royal Flush manual. Reprinted courtesy of Premier Technology.)

The Joker feature lights corresponding rollovers for 3000 points and increases the hole value up to 4000 points. Completing the three Joker sequence lights the hole for "Special".

The drop targets score the hole point value up to 4000 points. Completing the drop targets will light the center target for 3000 points. On 3 ball play the 3000 point target is always lit.

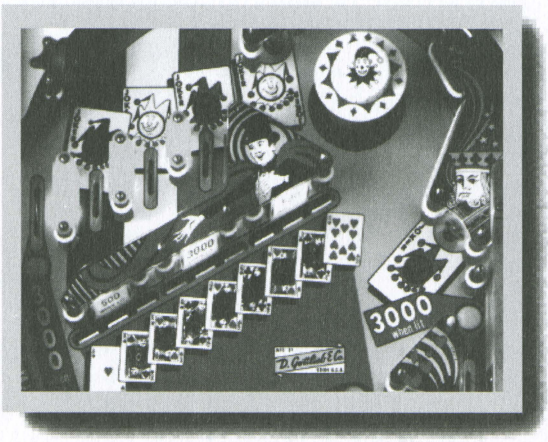
The pop bumper scores 100 points on 5 ball play and 1000 points on 3 ball play.

The bonus is scored after completion of ball in play. The bonus scores double on the fifth ball in play. On 3 ball play the bonus scores double on the second and third ball in play. The bonus unit will run through its complete cycle if a bonus is indicated. However, if no bonus is indicated, the unit will not run.

The features reset after each ball in play.

Playing Tips From A Pro

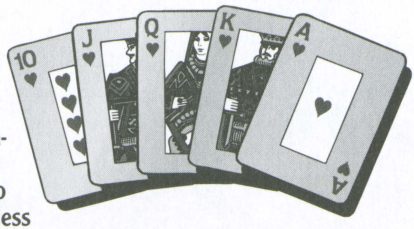
—Michael Gottlieb



ROYAL FLUSH™

Playing Tips From a Pro

Throughout the sixty-odd years that have passed since David Gottlieb introduced the first mass-market pinball game, his family has been at the forefront of the industry. Today, it is his grandson, Michael Gottlieb, continues that tradition through his work at Williams/Bally/Midway.



Although Gottlieb pinball games are now designed and manufactured by the folks at Premier Technology, Michael had no hesitation in speaking to us about Royal Flush and what the game means to him—wonderful proof that, regardless of their corporate affiliations, and whether they be designers, operators, suppliers, collectors or players, pinball people around the world are all part of a marvelous and unique community.

If you're reading this before you've had a chance to really explore the game on your own, you might want to save the middle or last part of his incredible analysis until after you've had a chance to play it and discover some of its secrets for yourself.

Michael Gottlieb on Royal Flush:

Physics, it's what rules our universe.

It's also what allows the existence of pinball—the game that has been so much a part of my life. I learned to play before I could walk; learned to add on score reels, and remain fascinated by the game to this very day. It is this love of the game that makes me thankful Amtex is bringing the game, in a new and exciting format, to a whole new generation of players.

The year was 1976. D. Gottlieb & Co. were experiencing a new peak after the golden era of the 60's. Dad always loved card games and Royal Flush is still one of his favorites. A true Gottlieb classic that, in many ways, signified the end of an era.

Royal Flush Playing Strategies

I personally suggest two main strategies for Royal Flush:

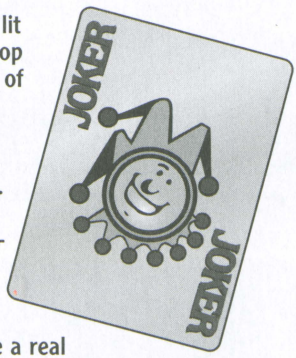
The first is for the novice player who want to develop his accuracy as well as get a decent score. It involves shooting for the drop target bank first and then going after the exposed 3000 point target and the two 500 point targets. This is a simple strategy, but a good one for learning the flow of the ball on the playfield.

The second strategy is my personal technique that I've used for eighteen years. The initial objective is to get the three jokers via the rollover lanes or the spot targets.

Hint: Always nail a joker lane off the plunger. Each joker will increase the value of the drop targets and the kick-out hole by 1000 points. Think of the joker as a "drop target multiplier". The main theory behind this strategy is that the drop targets do no reset so their value must be maximized.

Note that 9 drop targets at 1000 points = 9000 points whereas 9 drop targets at 4000 points = 36000 points, showing the value of this strategy.

"Once you get all the jokers, shoot for the drop targets."



If you drop all drop targets, focus on the lit 3000 point target in the middle of the drop target bank. This target can give you lots of points if you hit it with consistency. Another benefit of this technique is that once the player gets all three jokers, the kick-out hole lights alternately for special. Use this strategy on every ball except when the "Double Bonus" lights. This feature lights on the last ball in a five ball game. It will double the value of your bonus, so it's best to make sure you knock down all the drop targets. If you're a real pro, on the last ball go for all jokers first, then knock down all the targets. This will maximize everything and you will get 36000 points for drop targets plus 30000 points "double bonus", giving you a total of 66000 points on one ball! Makes replay look kind of easy, doesn't it?

Special Hint: The best way to get the jokers is to take the right flipper shot long and go back up through the white lane on the left. This will either get you a joker or the ball will roll back down the white lane. If you have the white joker, the white lane gives you 3000 points up and 3000 points down making it the highest scoring single shot in the whole game!

Other notes

- Don't count on the ball gate. The lane that lights it cannot be shot from the flipper and the lane has a narrow entrance.
- The one pop bumper will frequently pop into the white joker. Try to get the bumper to hit it if you can.
- Flip early off the left flipper to get the queen drop targets and a roll-back that should set up a right flipper shot.
- Learn the roll-off from the left white lane. It's a good shot to milk for lots of points once you become comfortable with the flow of the ball.
- Experiment shooting for the kick-out hole. Find ways to get the ball in it for those times you've lit the special. If you shoot for it off the left sling (my technique), make sure the special is unlit. That way, the alternating special will light off the sling before the ball goes in the hole.

I hope these strategies improve your game and reveal to you all the wonderful scoring opportunities in Royal Flush. Look for other classic pinball machines from Amtex and have fun with all their great products!

See you at Pinball Expo...

Michael A. Gottlieb
Market Analyst, Williams/Bally/Midway

Free AMTEX Product Support

Before calling, please -

1. Review the installation, loading and operation instructions.
2. Check the Technical Notes section of this manual to see if your particular hardware or problem is described. You may save yourself a phone call.
3. Be ready with the name of your computer as well as the model, configuration and operating system information.
4. If you can reproduce the steps that create the problem, please note these down as well.
5. When you call, you should be at your computer with **Royal Flsuh** loaded, if possible. Thank you.

AMTEX Product support is available Monday to Friday (except holidays), 9:00 am to 5:00 pm EST.
Phone: (613) 967-7900
Fax: (613) 967-7902

ROYAL FLUSH™

Visit the Amtex Pinball Café - Online

If you've got a modem, one of the quickest (and funnest) ways to reach Amtex Technical Support is through the Online Pinball Café. Drop in through any of our three cyberspace doorways.

CAFÉ MENU - OPEN 24 HRS.

- ➡ Technical Help
- ➡ New Product Information
- ➡ Pinball Playing Tips
- ➡ Real Pingame Reviews

- ➡ High Score Chalk Board
- ➡ Special Offers
- ➡ Upcoming Tournaments and Shows
- ➡ Pinball rap with other players

The Amtex BBS

1. Set your modem to 8N1
2. Dial 1-613-967-9789
3. Follow the on-screen guide

CompuServe

1. Sign on to CompuServe (see enticing introductory offer on following page.)
2. Type GO AMTEX from any CompuServe prompt.

Internet

Got e-mail access to the net? That's all you need.

1. Drop us a note c/o **sysop@amtex.com** or:
2. Request the file **cafe@amtex.com** for the lowdown on what's up.

Thank you for choosing AMTEX.

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Amtex customers receive

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- A $15.00 introductory usage credit to explore the AMTEX Section of the Game Publisher's Forums and CompuServe's other Extended and Premium Service offerings
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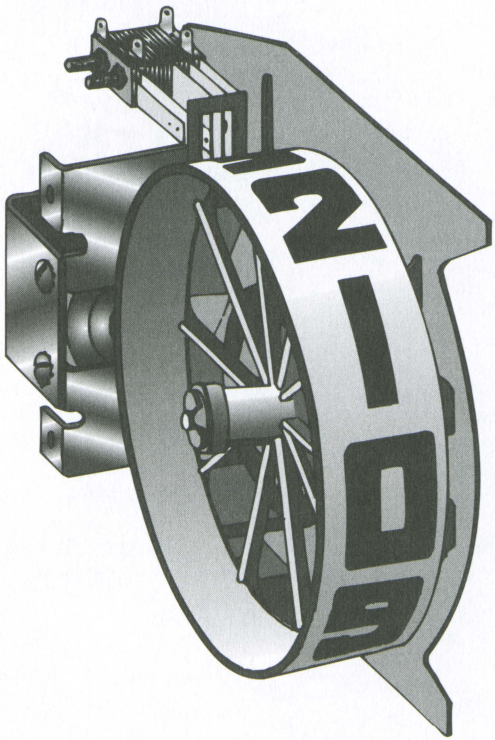
Remember

Take a moment now to fill your registration card. Mail it at your first opportunity — then get ready for your share of neat benefits.

IBM

Technical Notes



ROYAL FLUSH™

Easy Start

Once you've determined your favorite way of starting up **Royal Flush**, you can create a DOS batch file that combines all commands into one simple instruction.
For example, let's say you want to switch to your **\amtex\rylflush** directory, run your VESA driver (located in c:\vgautil and called vvesa.com), load **Royal Flush** with the notitles parameter and then tell DOS to switch back to your root directory after you've finished playing. All this could be done just by typing rylflush.

Here's how. At the c:\> prompt, type:

```
copy con rylflush.bat
c:
cd \amtex\rylflush
c:\vgautil\vvesa
rf notitles
cd \
^z
```

^z is entered by holding down the <Ctrl> key and simultaneously pressing "z". Then press <Enter> as usual to input the line. This tells DOS that **rylflush.bat** is complete and saves it to disk.
Adjust the above list of instructions to match your unique setup and make sure that **c:**, your root directory, is listed in the PATH command of your **autoexec.bat** file.
Now you can type **rylflush** <Enter> from any directory on any drive for a quick and easy start to your favorite pinball game.

Command Line Options

You can start Royal Flush using extra parameters, in any order. Use as many as you like.
For example:
rylflush nosb notitles oldvesa <Enter>

help	Summary.
nosb	Tells the game to ignore the Sound Blaster or compatible sound card entirely.
nosound	Start silently. The PC speaker can be re-enabled inside the game.
notitles	Go directly to the pinball cafe (no intro).
nomouse	Ignore mouse.
pause	Pauses the game after execution. May be useful for catching error messages.
ball1	Use default ball.
ball2	Use slightly smaller ball.
ball3	Use huge ball.
nudgeXXXX	Configure the Nudge keys. Default is nudgezZ/?.
oldvesa	Used to gain compatibility with older SVGA cards. Run your VESA driver, then enter rf oldvesa. While at the playfield, press <Ctrl-V> to toggle between VESA modes until you get the best display. If it doesn't help in one resolution, try another (lower) resolution.
vesascrolling	Uses the VESA driver for scrolling and nudging instead of relying on (faster) direct hardware access. Apply if nudging doesn't appear to work, or if the 640x480 mode won't scroll.

Ram Memory Set Up

Royal Flush accesses all available RAM memory whether Extended or Expanded, thus freeing you from memory setup hassles.
The minimum Conventional memory requirement of 420K is relatively low and normally met by most systems. If in doubt, you can check your RAM memory allocation by typing mem <Enter> at the DOS prompt.

Maximizing your CD playing speed

Since the version of Smartdrive included with DOS 6.2 or greater operates with CD-ROM drives, you can increase the speed with which you move from Café to Playfield and vice versa by making sure that **smartdrv.exe /X** is installed in your **autoexec.bat** file. Make sure it is located below the line that sets up your CD-ROM drive–the line containing the **c:\dos\mscdex** driver.

Norton Anti-Virus

Avoid any TSR's that are not absolutely necessary. For example, some versions of the Norton Anti-Virus memory resident program are incompatible with **Royal Flush** and prevent it from running.

Video Memory Re-Allocation

Do not allow the DOS 6.x MEMMAKER or other memory optimization program to take away any part of your video BIOS memory, not even the "monochrome region". **Royal Flush** employs advanced video programming that requires full use of this area.

QEMM

While Quarterdeck's QEMM is an excellent memory manager, DO NOT use its "Stealth" option because it re-allocates important parts of video BIOS and other memory addresses normally reserved by DOS and vital to **Royal Flush**.

Otherwise QEMM should work very well, provided you are using a stable release. If you are running QEMM 7, make sure you've upgraded to 7.03 or higher. Versions 7.0 - 7.02 have proven unstable. Free upgrades are available from Quarterdeck Systems.

Sound Cards

Sound Blaster

Sound Blaster sound cards work well with their default (factory) settings or when configured as follows:

I/O Port
220 or 240

Interrupt (IRQ)
2, 5 or 7

DMA
1

Sound Blaster 16 Series

To enable these high end cards to play digitized sound, the blaster environment string must be set. A program usually called **sbconfig.exe** must also be run to configure the card to the settings in the environment string. These lines are normally installed in your **autoexec.bat** file. For further details, please see your Sound Blaster documentation. Other Sound Blaster cards do not require a blaster environment string.

ATI Sound Card

The ATI Stereo VGA/FX video/sound card has a special feature called "buffering." This is intended to improve sound quality, but unfortunately it requires close attention of the CPU, which has to wait for the card to accept new sample data. This feature dramatically slows down game play. You can check this when running the game by turning the sound off and on using the 'A' key.
The setup program of the card (usually **\vgautil\vinstall.exe**) includes an option to turn this feature off. The sound may be a bit 'clicky', but still operational. This setting can improve performance of other software suffering from the same problem.

Sometimes the ATI Stereo VGA/FX and other sound cards hang up internally. Reset the card by using a program that comes with it. In the case of the ATI card, it's most likely **c:\sfx\reset.exe**. You may want to include this reset command within your **autoexec.bat** file for automatic execution on computer start up.

Media Vision Pro Audio Spectrum Sound Card and CDPC XL

This board often starts up very quietly. You can change its volume by holding down the **<Ctrl>** and **<Alt>** keys simultaneously with the **U** or **D** keys to move volume Up or Down.

If you'd prefer to start automatically with a higher sound level, you can modify the MVSOUND.SYS Device Driver in your **config.sys** file to include the V:# parameter, with # being a value between 1 and 100. This sets the initial volume. **V:65** works well for us. See your Media Vision documentation for more information.

Vesa Video Drivers

Why You Probably Need One

VGA was the first popular IBM video display standard to be considered high resolution. Making its debut in a market that was hungry for finely detailed, colorful graphics, VGA spread quickly. Since its specifications had been blueprinted in detail by IBM, there was no ambiguity. In fact, VGA still provides both software and hardware developers a universal and extremely stable means of handling 256 color displays at resolution of 320x240, or 16 color displays at 640x480.

Unfortunately, VGA had barely hit the streets before people began demanding more. Video manufacturers responded by scrambling in all directions to give them what they wanted. It wasn't long before the first "Super VGA" cards arrived, delivering 256 colors and more at resolutions of 640x480 and higher. Trouble was, none of these SVGA cards did things the same way. Each new improvement seemed to make the nightmare worse, until finally, an evolving set of standard resolutions and command sets was hammered out by the Video Electronics Standards Association (VESA) in cooperation with major manufacturers.

To enable their cards to comply to this VESA norm, manufacturers now supply little patches called drivers which must be run prior to a VESA application. For this reason, in order to use the SVGA options of **Royal Flush**, you must first load the VESA driver that matches your video card.

Why You Might Not: Built-in VESA

Today, many SVGA cards have VESA compatibility built in. To find out if yours is among them, simply run **Royal Flush** without loading any VESA driver. Then go into the Back Box and check to see if there are any resolutions available higher than 320x240.
If there are, you're in luck and won't have to worry about VESA compatibility any longer. None of the instructions for loading a VESA video driver apply to you.

VESA Local Bus Video

VESA has also laid down standards for "local bus" high speed data transfer between the CPU and video card. This is an entirely different feature that has nothing to do with the video drivers required for VESA SVGA display.

Locating your VESA driver

Some computers are sold with their video card's drivers already loaded into a directory on the hard drive (i.e. **\mach32**). Alternatively, the video drivers may be on a floppy disk provided by the manufacturer. Some clone computers, unfortunately, are sold without any video drivers except the one that provides the most basic Microsoft DOS and Windows capability.
If you can't find a VESA driver for your computer's video card, you have three choices:

1. Call on your computer dealer and ask for it.
2. Phone your video card's manufacturer and get one sent to you by mail, or download it by modem from CompuServe or your manufacturer's BBS.
3. Use one of the drivers included with your**Royal Flush** program disks.

VESA drivers provided with Royal Flush

Amtex has included both a universal VESA driver and a collection of VESA drivers for many different cards.

UniVBE

UniVBE is designed to work with a wide variety of video cards. It may be the quickest solution for users who cannot locate the VESA driver native to their own video card.

This driver is provided by Amtex for the convenience of our customers. It has been independently developed by SciTech Software and is included with Royal Flush under license from SciTech.

You may use it freely on your own computer, but it is not shareware or freeware.

For more information about UniVBE, please refer to SciTech Software's documentation, which is located in the **univbe** directory of your **Royal Flush** program disk. View the **univbe.txt** file using any DOS text editor.

If, after reading univbe.txt, you wish to proceed with the installion of **UniVBE**, please make sure youíre in DOS. Then change to the univbe directory of your **Royal Flush** installation disk and type:

```
install <Enter>
```

ATI Video Cards and UniVBE

Please note that if you have an Mach32- or Mach64-based video card, such as the Ultra Pro or Ultra Turbo, you will need to use the EXCLUDE option of your memory manager to exclude the entire video BIOS region. For EMM386 and QEMM use the following switch in the command line: X=C000-CFFF.

i.e. (within **config.sys**)

```
DEVICE=C:\DOS\EMM386.EXE X=C000-CFFF NOEMS HISCAN
```

Again, for more information please refer to **univbe.txt.** Product support for UniVBE is available only from SciTech Software.
Voice: (408) 292-4476. Fax: (510) 208-8026

VESADRV2.ZIP

This is a collection of VESA drivers from 17 different manufacturers.

Use **Pkunzip** to uncompress these files, then choose the one that best matches your video card. **Pkunzip** is a shareware program that's widely available (but not by commercial distribution, otherwise we'd have included it.) If you don't have **Pkunzip** already, you may obtain it from a BBS, any computer retailer or the friend that got you into computers in the first place. Please register with Pkware if you find it useful.

Installing your VESA driver

STB Video Card

This VESA driver must be installed before loading your mouse or any other video driver. The best way to accomplish this is to call it on the first line of your **autoexec.bat** file. Copy the driver itself into the root directory of your hard drive, or any other directory named in your PATH statement.

Other Video Cards

Unless your video card, like the STB, specifically requires you to install its VESA driver ahead of other drivers, you may run the VESA driver whenever you decide to play **Royal Flush**.

Old SVGA Video Cards

Your card may have been manufactured during the time when VESA standards were still unsettled, especially if you can't find a drivers disk for your video card. There are three Trident VESA drivers, for example, included in VESADRV2.ZIP: **vesa.exe**, **oldvesa.exe** and **oldrvesa.exe**. If necessary, try them all.

It may be that your card is almost, but not quite, compatible with the VESA standard. To facilitate a match with one of these cards, include the `oldvesa` parameter on the command line when you start **Royal Flush**, i.e.:

```
rf oldvesa <Enter>
```

From the Pinball Cafe, open the Back Glass, choose the least aggressive SVGA option to start with (640x480), then press "s" to begin playing.

In the event that you have several VESA drivers to choose from, reboot your computer before trying each new editor.

Stabilizing Your Display

Does your SVGA playfield flicker when you hit a nudge key? Is it possibly even totally scrambled? Fear not. Help is at hand.

This inconvenience sometimes occurs because several incompatible variations of VESA compliance were created by video card manufacturers before standards finally settled. If you own an early SVGA video card, your hi-res display may thus come up looking pretty weird. Fortunately, **Royal Flush** is capable of syncing up with the different variations of VESA using a simple toggle from the keyboard. All you have to do is press <Ctrl-V> to cycle through the variations.

Nudge doesn't seem to work

If your display is too stable, i.e. the playfield doesn't appear to move when you nudge it, use the vesascrolling parameter when starting Royal Flush. Please see the **Command Line Options** Section of TECHNICAL NOTES for details.

Don't have VESA SVGA?

Don't despair. You can still enjoy all the action of **Royal Flush** in scrolling screen mode. 320x240 resolution is always available to fill your screen with 256 beautiful colors. All the targets, strategies, bonuses and specials of this great game are available to challenge you.

VGA Problems

Screen Appears Black

On some older VGA boards connected to a monochrome or even color VGA monitor the screen may appear black and stay black when starting up **Royal Flush**. In that case, try typing `mode co80` before you run **Royal Flush**, which should switch your VGA card into color mode. Press <Esc> several times to return to DOS. Your screen should return to normal.

Some really old VGA cards won't work at all; these are not 100% VGA compatible. Refer to your VGA manual for switch and jumper settings. Try every possible combination—as long as your VGA manual indicates that what you're doing is safe. Also, turn your computer OFF and UNPLUG it BEFORE you open your computer to look for jumpers!

Choppy Movement

VGA boards are normally AT boards that go into an AT slot. Because of this, all VGA graphics movement slows down the system. This, in combination with a slower computer, such as the 386 SX/16, may result in the appearance of choppy animation when you activate the flippers. **Royal Flush** automatically slows down the frame rate as necessary in order to maintain a realistic game speed.

Operation Under OS/2

Royal Flush operates in a DOS shell much better under OS/2 than it does under MS Windows 3.x. For optimal performance, the following parameters should be modified from the OS/2 Default configuration.

```
HW_TIMER                    ON
IDLE_SENSITIVITY            100
INT_DURING_IO               ON
VIDEO_8514A_XGA_IOTRAP              OFF
VIDEO_RETRACE_EMULATION             OFF
```

This game was tested under OS/2 v2.1

Error Messages

If the installation is incomplete, or if after installation you accidentally delete one or more files, the program will exit and display a message. If the first message refers to a filename, simply reinstall **Royal Flush** on top of its existing directory.

Not Enough Memory Available

Royal Flush needs about 420KB of conventional memory to run. This should give you ample room for other drivers or TSRs loaded by **config.sys** or **autoexec.bat**. If, however, you still find yourself short of conventional memory, please refer to your DOS manual to help you set up your system more efficiently.

If you still can't run **Royal Flush**, REM out some device drivers or TSRs until the game plays successfully.

Allocation Failure

There are several memory allocation failure messages. Usually this indicates a lack of sufficient conventional memory. See preceding section.

Other Messages

If you get other error messages, or if the program does not seem to run properly, double check to make sure your system meets the minimum requirements, then check your computer's configuration and installation procedure. Most mysterious crashes are due to insufficient memory. Again, some memory resident programs, such as **Norton Anti-Virus**, are incompatible with **Royal Flush**.

Scan this document carefully for any references that apply to your system or its components and take appropriate action. Also look for a README.TXT file included with your game. Late-breaking announcements are posted there. Chances are very good that the answer to your problems can be found either within these pages or inside README.TXT.

How To Play Royal Flush

Playfield Features

Royal Flush Game Features

Jokers

Joker Lanes or Joker Targets light corresponding rollovers for 3000 points and increase the hole value by 1000 points. Completing the three Joker sequence lights the hole for "Special".

Pop Bumper

Scores 100 points in 5 ball play and 1000 points in 3 ball play.

Card Targets

The drop targets score the hole point value up to 4000 points. Completing the drop targets will light the center target for 3000 points. On 3 ball play the 3000 point target is always lit.

"Open Gate" Lane

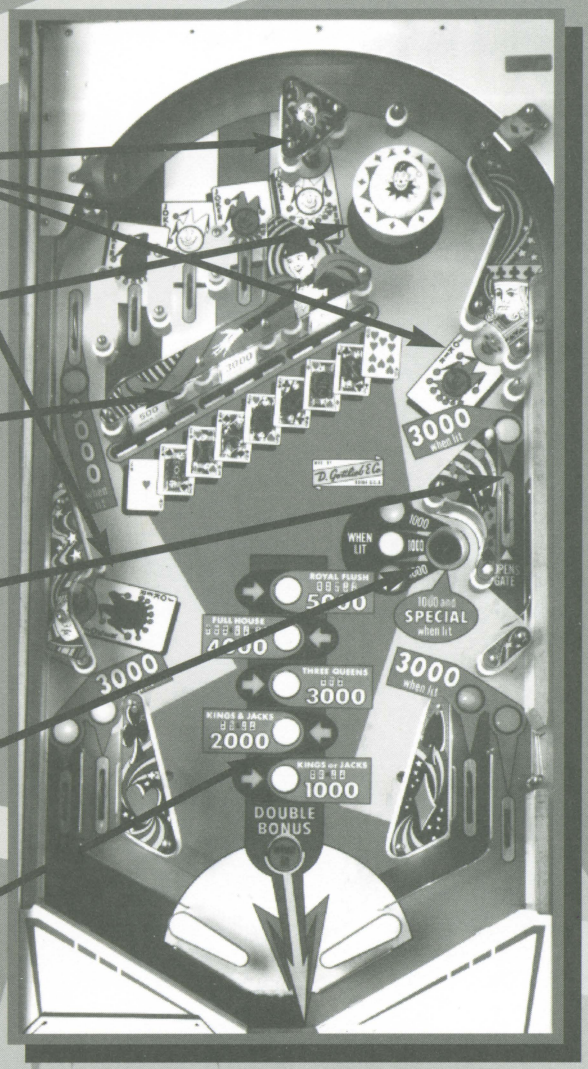
Scores 500 points or 3000 points if lit by White Joker. Always opens the gate to return the ball to shooter lane. If the ball enters the shooter lane, the gate closes automatically.

The Hole

Scores 1000, plus another 1000 for each lamp lit by Jokers, to a maximum of 4000. If all Jokers are completed, the hole lights for "Special". In 5 ball play, the light switches on and off as various bumpers are hit.

Bonus Points

Based on the card combinations made, these points are awarded on the loss of the ball to the outhole. In 5 ball play, they are doubled on the last ball. In 3 ball play, they are doubled on balls two and three.



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